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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/693,359 | 10/24/2003 | Mark T. Devlin | EI-7609 | 1665 |
| 63970 7590 03/26/2007 MH2 TECHNOLOGY LAW GROUP (Cust. No. w/NewMarket) 1951 KIDWELL DRIVE SUITE 550 TYSONS CORNER, VA 22182 | | | EXAMINER SHOSHO, CALLIE E | |
| | | | ART UNIT 1714 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 03/26/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/693,359

Applicant(s)

DEVLIN ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 11-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The after-final amendment filed 3/13/07 has been entered.

The double patenting rejection of record is overcome by applicants' filing of proper terminal disclaimer on 3/13/07.

Upon reconsideration of Cook et al. (U.S. 2002/0119895), new rejections of record are set forth below. In light of the new grounds of rejection, the finality of the previous office action has been withdrawn and thus, the following action is non-final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

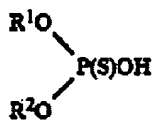
Claim 13, which depends on claim 8, recites that the composition comprises a major amount of "diluent oil" while claim 8 recites that the composition comprises "base oil". Thus, the scope of claim 13 is confusing given that it is not clear what, if any difference, there is between diluent oil and base oil. Does the composition comprise base oil or diluent oil or both? Should claim 13 be amended to recite "base oil"? Clarification is requested.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 4-5, 7-8, and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. (U.S. 2002/0119895) in view of Burjes et al. (U.S. 4,755,311) and *STN* structure.

Cook et al. disclose composition used as gear lubricant and in turbines wherein the composition comprises polysulfide or sulfurized olefin, dithiocarbamate, i.e. friction modifier, and amine salt of monothiophosphoric acid wherein the amine includes N-oleyl-1,3-diaminopropane and which corresponds to the presently claimed combination of hydrocarbylamine and alkylphosphoro(mono)thioate. It is noted that, as disclosed by *STN* (retrieved from the Internet: <URL: <http://www.stn.cas.org/>), that N-oleyl-1,3-diaminopropane is equivalent to N-oleyl trimethylene diamine as presently claimed. Further, given that the N-oleyl-1,3-diaminopropane is identical to that presently claimed, it is clear that it would also intrinsically function as a friction modifier as presently claimed. For specific types of monothiophosphoric acid, Cook et al. refers to Burjes et al. (incorporated by reference) which discloses monothiophosphoric acids of the formula:



where R^1 and R^2 are each hydrocarbyl groups such as alkyl group containing 1-30 carbon atoms (col.3, lines 52-56, col.3, line 66-col.4, line 2, and col.4, lines 33-45). It is disclosed that the composition is used as either a concentrate wherein the above is combined with minor amount of diluent or as a lubricant wherein the above is combined with major amount of base oil possessing viscosity of SAE 75W-140. There is also a disclosure of method for making the lubricant. It is further noted that the lubricant has kinematic viscosity of at least 4 cSt. Cook et al. disclose that the lubricant comprises 0.5-5% polysulfide or sulfurized olefin and 0.1-10% phosphorous agent, i.e. amine salt of monothiophosphoric acid, which corresponds to the presently claimed combination of hydrocarbylamine and alkylphosphoro(mono)thioate wherein the hydrocarbylamine also functions as friction modifier, which clearly overlaps the amount of sulfur containing compound and hydrocarbylamine/alkylphosphorothioate/friction modifier required in the presently claimed composition (paragraphs 1, 3, 77, 86, 93, 121-122, 129, 141, 173-175, 177, and 179).

While Cook et al. fails to exemplify the presently claimed concentrate or lubricant nor can the claimed concentrate or lubricant be "clearly envisaged" from Cook et al. as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed concentrate or lubricant and the concentrate or lubricant disclosed by Cook et al., it is urged that it would have been within the bounds of routine experimentation, as well as the skill level of one of ordinary skill in the art, to use concentrate or lubricant which is both disclosed by Cook et al. and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. in view of Burjes et al. and *STN* structure as applied to claims 1, 4-5, 7-8, and 11-20 above, and further in view of Norman et al. (U.S. 5,942,470).

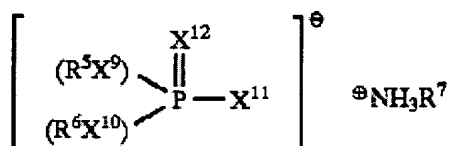
The difference between Cook et al. in view of Burjes et al. and *STN* structure and the present claimed invention is the requirement in the claims of the amount of each component in the concentrate.

Norman et al., which is drawn to additive concentrate for gear oils, disclose the use of concentrate that comprises 20-80% sulfur-containing component, i.e. polysulfide or sulfurized olefin, 1-15% amine salt of ester of phosphorous acid, 0.1-20% friction modifier, and diluent oil in order to produce gear oil with improved positraction performance for long periods of time (col.1, lines 11-67, col.11, lines 37-40, and col.19, lines 12-25).

In light of the motivation for using sulfur-containing component, amine salt of ester of phosphorous acid, and friction modifier in concentrate in amounts disclosed by Norman et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use the sulfur-containing component, amine salt of ester of phosphorous acid, and friction modifier in such amounts in the concentrate of Cook et al. in order to produce gear oil with improved positraction performance for long periods of time, and thereby arrive at the claimed invention.

7. Claims 1, 4-8, and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al. (U.S. 5,942,470) in view of Cook et al. (U.S. 2002/0119895) and *STN* structure.

Norman et al. disclose additive concentrate comprising 20-80%, preferably, 35-60% sulfur-containing extreme pressure or antiwear agent such as sulfurized olefin or polysulfide of the formula $R-S_x-R^1$ where R and R^1 are each hydrocarbyl group containing 3 to 18 carbon atoms, 1-20%, preferably, 5-10%, friction modifier, 1-15%, preferably, 5-10% amine salt of one or more partial esters of one or more acids of phosphorous of the formula:



where R^5 - R^7 are each hydrocarbyl group and X^9 - X^{12} are each oxygen or sulfur, and remainder diluent. There is also disclosed composition comprising major amount of base oil possessing viscosity of SAE 50 to SAE 250, preferably SAE 70W to SAE 140, 2-4% sulfur containing extreme pressure or antiwear agent, 0.3-1% amine salt of one or more partial esters of one or more acids of phosphorous, and 0.2-1% friction modifier. There is also disclosed method of making the composition. It is disclosed that the composition is used as gear oil for manual transmission (col.1, lines 10-15 and 45-67, col.2, lines 47-54, col.3, lines 30-48, col.4, lines 13-23, col.11, lines 1-9 and 38-40, col.15, line 66-col.16, line 6, col.16, lines 34-45, line 16, col.18, lines 16-20 and 39-47, col.18, line 61-col.19, line 30, and col.22, lines 49-61).

The difference between Norman et al. and the present claimed invention is the requirement in the claims of hydrocarbylamine b(i).

Cook et al., which is drawn to composition for gear lubricant, disclose the use of phosphorous-containing antiwear or extreme pressure agent that is amine salt of

monothiophosphoric acid wherein the amine is obtained from fatty diamine such as N-oleyl -1,3-diaminopropane. Cook et al. also disclose the equivalence and interchangeability of using such fatty diamine, as presently claimed, with using alkyl amine as disclosed by Norman et al. (paragraphs 129-130, and 141). It is noted, as disclosed by *STN* (retrieved from the Internet: <URL: <http://www.stn.cas.org/>), that N-oleyl-1,3-diaminopropane is equivalent to N-oleyl trimethylene diamine as presently claimed.

Given that the combination of Norman et al. with Cook et al. discloses composition comprising same types and amount of ingredients as presently claimed inducing major amount of base oil possessing viscosity as presently claimed, it is clear that the composition would intrinsically possess kinematic viscosity as presently claimed.

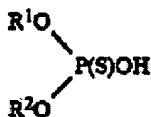
In light of the disclosure of the equivalence and interchangeability of using alkyl amine with using fatty diamine disclosed by Cook et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use N-oleyl -1,3-diaminopropane as the amine in the composition of Norman et al. and thereby arrive at the claimed invention.

8. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laing et al. (U.S. 4,710,100) in view of Cook et al. (U.S. 2002/0119895).

Laing et al. disclose wind turbine comprising gear assembly wherein the gear assembly requires lubricant (col.1, lines 4-6 and col.3, lines 50-52).

The difference between Laing et al. and the present claimed invention is the requirement in the present claims of specific composition.

Cook et al., which is drawn to lubricant for turbine, disclose the use of lubricant composition comprising polysulfide or sulfurized olefin, dithiocarbamate, i.e. friction modifier, and amine salt of monothiophosphoric acid wherein the amine includes N-oleyl-1,3-diaminopropane and which corresponds to the presently claimed combination of hydrocarbylamine and alkylphosphoro(mono)thioate. It is noted that, as disclosed by *STN* (retrieved from the Internet: <URL: <http://www.stn.cas.org/>), that N-oleyl-1,3-diaminopropane is equivalent to N-oleyl trimethylene diamine as presently claimed. Further, given that the N-oleyl-1,3-diaminopropane is identical to that presently claimed, it is clear that it would also intrinsically function as a friction modifier as presently claimed. For specific types of monothiophosphoric acid, Cook et al. refers to Burjes et al. (incorporated by reference) which discloses monothiophosphoric acids of the formula:



where R^1 and R^2 are each hydrocarbyl groups such as alkyl group containing 1-30 carbon atoms (col.3, lines 52-56, col.3, line 66-col.4, line 2, and col.4, lines 33-45). It is disclosed that the composition is used as a lubricant wherein the above is combined with major amount of base oil. The motivation for using such composition is that the composition possesses good anti-wear properties (paragraphs 1, 3, 77, 86, 93, 121-122, 129, 141, 173-175, 177, and 179).

In light of the motivation for using specific lubricant disclosed by Cook et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such lubricant in the wind turbine of Laing et al. in order to produce turbine with good anti-wear properties, and thereby arrive at the claimed invention.

Response to Arguments

9. It is noted that Cook et al. was previously utilized against the present claims as set forth in the office action mailed 1/27/06. Upon reconsideration, it is the examiner's position that Cook et al. is a relevant reference against the present claims. Given that Cook et al. is now again utilized against the present claims, the examiner responds to applicants' arguments regarding Cook et al. as set forth in the amendment filed 5/2/06.

Applicants argue that Cook et al. is not a relevant reference against the present claims given that alkylphosphoro(mono)thioate is not used in any formulations with the other presently claimed components and given that both examples that exemplify useful phosphorous acid esters utilize dithiophosphoric acid. Applicants further argue that none of the examples of lubricating composition comprise alkylphosphoro(mono)thioate.

However, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others", *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). Further, "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims", *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). A fair reading of Cook et al. as a whole clearly discloses the use of

phosphorous acid ester that is alkylphosphoro(mono)thioate as presently claimed (paragraphs 121-122) as well as amine salt of such phosphorous acid ester (paragraph 128-129) wherein the amine includes N-oleyl-1,3-diaminopropane (paragraph 141).

Applicants also argue that Cook et al. do not teach hydrocarbylamine b(i) as presently claimed. Applicants argue that the alkyl amines taught by Cook et al., i.e. N-coco-1,3-diaminopropane and N-tallow-1,3-diaminopropane, are outside the scope of the present claims.

However, attention is drawn to paragraph 141 of Cook et al. that also disclose the use of N-oleyl-1,3-diaminopropane, which, as disclosed by *STN* (retrieved from the Internet: <URL: <http://www.stn.cas.org/>), is equivalent to N-oleyl trimethylene diamine as presently claimed. Thus, it is the examiner's position that Cook et al. do teach the use of hydrocarbylamine b(i) as presently claimed.

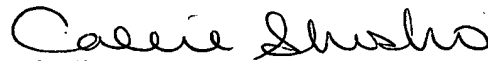
In light of the above, it is the examiner's position that Cook et al. is a relevant reference against the present claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS

3/22/07